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TITLE : DIAMOND COATED SUBSTRATE AND ITS PRODUCTION

ABSTRACT : PURPOSE: To form a thick diamond coating film on a substrate by a vapor phase synthesis method without causing warpage and to produce a diamond coated substrate excellent in adhesion, subjected to easy polishing for flattening the surface of the coating film and less liable to the cracking of the coating film at the time of brazing to a tool.

CONSTITUTION: When a diamond coating film is formed on a substrate by a vapor phase synthesis method, compressive stress and tensile stress are selectively and alternately produced in the coating film by varying the temp. of the substrate and the stresses are compensated with each other. The objective thick diamond coating film is formed on the substrate without causing warpage to the film.

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